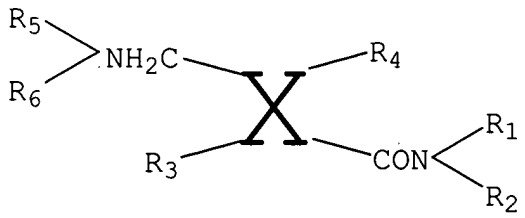
I claim:

1. A compound of the formula:



wherein:

R_1, R_2 and R_5 are independently selected from the group consisting of H and C_1--C_2 alkyl;

R_3 and R_4 are selected from C_2--C_8 alkyl;

R_6 is selected from the group consisting of H and the L-isomer (amino acid convention) of R_7--$(CH_2)_n$--$HC(NH_2)$--CO--;

wherein

n is an integer from 0 to 3;

R_7 is selected from the group consisting of unsubstituted heteroaryl and monosubstituted heteroaryl, wherein said heteroaryl is selected from the group consisting of furanyl, pyrrolyl, thiophenyl, pyridinyl, indolyl, benzofuranyl, benzothiophenyl, quinolinyl, isoquinolinyl, imidazolyl, thiazolyl, pyrazinyl, primidinyl, purinyl, and pteridinyl, and said substituent is hydroxy, halo, amino, nitro, methyl or acetoxy;

X is independently selected in each instance from the group consisting of trans, trans >C==CH--HC==C<, trans >C==C<, and >C*H--$(CH_2)_m$--HC*<, where "*" indicates a chiral carbon atom and R_3 and R_4 are oriented L- and D- (amino acid convention) at these respective chiral centers; and

m = 0, 1 or 2,

or a pharmaceutically acceptable salt, solvate or prodrug thereof.

2. The compound of claim 1 wherein R_1, R_2 and R_5 are hydrogen.

3. The compound of claim 1 wherein R_1 is methyl and R_2 and R_5 are hydrogen.

4. The compound of claim 1 wherein R_1 and R_2 are methyl and R_5 is hydrogen.

5. The compound of claim 1 wherein R_1 and R_2 are hydrogen and R_5 is methyl.

6. The compound of claim 1 wherein R_1, R_2 and R_5 are methyl.

7. The compound of claim 1 wherein R_7 is furanyl.

8. The compound of claim 1 wherein R_7 is pyrrolyl.

9. The compound of claim 1 wherein R_7 is thiophenyl.

10. The compound of claim 1 wherein R_7 is pyridinyl.

11. The compound of claim 1 wherein R_7 is indolyl.

12. The compound of claim 1 wherein R_7 is benzofuranyl.

13. The compound of claim 1 wherein R_7 is benzothiophenyl.

14. The compound of claim 1 wherein R_7 is quinolinyl.

15. The compound of claim 1 wherein R_7 is isoquinolinyl.

16. The compound of claim 1 wherein R_7 is imidazolyl.

17. The compound of claim 1 wherein R_7 is thiazolyl.

18. The compound of claim 1 wherein R_7 is pyrazinyl.

19. The compound of claim 1 wherein R_7 is primidinyl.

20. The compound of claim 1 wherein R_7 is purinyl.

21. The compound of claim 1 wherein R_7 is pteridinyl.

22. The compound of claim 1 wherein R_6 is hydrogen.

23. The compound of claim 22 wherein R_1, R_2 and R_5 are hydrogen.

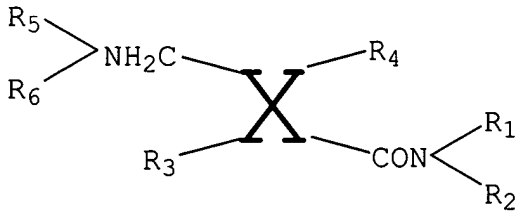
24. The compound of claim 22 wherein R_1 is methyl and R_2 and R_5 are hydrogen.

25. The compound of claim 22 wherein R_1 and R_2 are methyl and R_5 is hydrogen.

26. The compound of claim 22 wherein R_1 and R_2 are hydrogen and R_5 is methyl.

27. The compound of claim 22 wherein R_1, R_2 and R_5 are methyl.

28. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a compound of the formula



wherein:

R_1, R_2 and R_5 are independently selected from the group consisting of H and C_1--C_2 alkyl;

R_3 and R_4 are selected from C_2--C_8 alkyl;

R_6 is selected from H and the L-isomer (amino acid convention) of R_7--$(CH_2)_n$--$HC(NH_2)$--CO-;

wherein

n is an integer from 0 to 3;

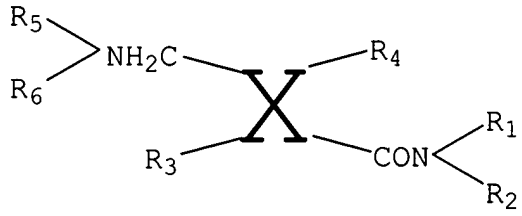
R_7 is selected from the group consisting of unsubstituted heteroaryl and monosubstituted heteroaryl, wherein said heteroaryl is selected from the group consisting of furanyl, pyrrolyl, thiophenyl, pyridinyl, indolyl, benzofuranyl, benzothiophenyl, quinolinyl, isoquinolinyl, imidazolyl, thiazolyl, pyrazinyl, primidinyl, purinyl, and pteridinyl, and said substituent is hydroxy, halo, amino, nitro, methyl or acetoxy;

X is independently selected in each instance from the group consisting of trans, trans >C=CH--HC=C<, trans >C=C<, and >C*H--$(CH_2)_m$--HC*< where "*" indicates a chiral center and R_3 and R_4 are oriented L- and D- (amino acid convention) at these respective chiral centers; and

m = 0, 1 or 2, or

a pharmaceutically acceptable salt, solvate or prodrug thereof.

29. A method of treating a mammal affected with the magnesium-binding defect, comprising administering to the mammal a pharmaceutically effective amount of a compound of the formula



wherein:

R_1, R_2 and R_5 are independently selected from the group consisting of H and C_1--C_2 alkyl;

R_3 and R_4 are selected from C_2--C_8 alkyl;

R_6 is selected from the group consisting of H and the L-isomer (amino acid convention) of R_7--$(CH_2)_n$--$HC(NH_2)$--CO-;

wherein

n is an integer from 0 to 3;

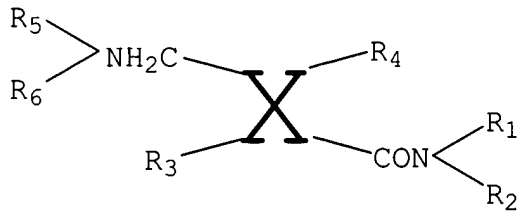
R_7 is selected from the group consisting of unsubstituted heteroaryl and monosubstituted heteroaryl, wherein said heteroaryl is selected from the group consisting of furanyl, pyrrolyl, thiophenyl, pyridinyl, indolyl, benzofuranyl, benzothiophenyl, quinolinyl, isoquinolinyl, imidazolyl, thiazolyl, pyrazinyl, primidinyl, purinyl, and pteridinyl, and said substituent is hydroxy, halo, amino, nitro, methyl or acetoxy;

X is independently selected from the group consisting of trans, trans >C=CH--HC=C<, trans >C=C<, and >C*H--$(CH_2)_m$--HC*< where "*" indicates a chiral carbon atom and R_3 and R_4 are oriented L- and D- (amino acid convention) at these respective chiral centers; and

m = 0, 1 or 2, or

a pharmaceutically acceptable salt, solvate or prodrug thereof.

30. A method of treating a mammal with salt-sensitive, essential hypertension, comprising administering to the mammal a pharmaceutically effective amount of a compound of the formula:



wherein:

R_1, R_2 and R_5 are independently selected from the group consisting of H and C_1--C_2 alkyl;

R_3 and R_4 are selected C_2--C_8 alkyl;

R_6 is selected from the group consisting of H and the L-isomer (amino acid convention) of R_7--$(CH_2)_n$--$HC(NH_2)$--CO-;

wherein

n is an integer from 0 to 3;

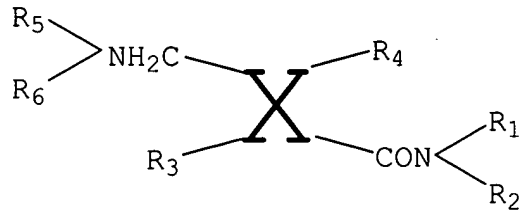
R_7 is selected from the group consisting of unsubstituted heteroaryl and monosubstituted heteroaryl, wherein said heteroaryl is selected from the group consisting of furanyl, pyrrolyl, thiophenyl, pyridinyl, indolyl, benzofuranyl, benzothiophenyl, quinolinyl, isoquinolinyl, imidazolyl, thiazolyl, pyrazinyl, primidinyl, purinyl, and pteridinyl, and said substituent is hydroxy, halo, amino, nitro, methyl or acetoxy;

X is independently selected from the group consisting to trans, trans >C==CH--HC==C<, trans >C==C<, and >C*H--$(CH_2)_m$--HC*< where "*" indicates a chiral carbon atom and R_3 and R_4 are oriented L- and D-(amino acid convention) at these respective chiral centers; and

m = 0, 1 or 2, or

a pharmaceutically acceptable salt, solvate or prodrug thereof.

31. A method of treating a mammal with insulin resistance of Type 2 diabetes mellitus, comprising administering to the mammal a pharmaceutically effective amount of a compound of the formula:



wherein:

R_1, R_2 and R_5 are independently selected from the group consisting of H and C_1--C_2 alkyl;

R_3 and R_4 are selected from C_2--C_8 alkyl;

R_6 is selected from the group consisting of H and the L- isomer (amino acid convention) of R_7--$(CH_2)_n$--$HC(NH_2)$--CO-;

wherein

n is an integer from 0 to 3;

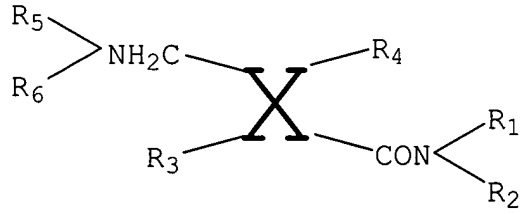
R_7 is selected from the group consisting of unsubstituted heteroaryl and monosubstituted heteroaryl, wherein said heteroaryl is selected from the group consisting of furanyl, pyrrolyl, thiophenyl, pyridinyl, indolyl, benzofuranyl, benzothiophenyl, quinolinyl, isoquinolinyl, imidazolyl, thiazolyl, pyrazinyl, primidinyl, purinyl, and pteridinyl, and said substituent is hydroxy, halo, amino, nitro, methyl or acetoxy;

X is independently selected from the group consisting of trans, trans >C==CH--HC==C<, trans >C==C<, and >C*H--$(CH_2)_m$--HC*< where "*" is a chiral carbon atom and R_3 and R_4 are oriented L- and D-(amino acid convention) at these respective chiral centers; and

m = 0, 1 or 2, or

a pharmaceutically acceptable salt, solvate or prodrug thereof.

32. A method of treating a mammal affected with pre-eclampsia/eclampsia, comprising administering to the mammal a pharmaceutically effective amount of a compound of the formula:



wherein:

R_1, R_2 and R_5 are independently selected from the group consisting of H and C_1--C_2 alkyl;

R_3 and R_4 are selected from C_2--C_8 alkyl;

R_6 is selected from the group consisting of H and the L-isomer (amino acid convention) of R_7--$(CH_2)_n$--$HC(NH_2)$--CO- ;

wherein

n is an integer from 0 to 3;

R_7 is selected from the group consisting of unsubstituted heteroaryl and monosubstituted heteroaryl, wherein said heteroaryl is selected from the group consisting of furanyl, pyrrolyl, thiophenyl, pyridinyl, indolyl, benzofuranyl, benzothiophenyl, quinolinyl, isoquinolinyl, imidazolyl, thiazolyl, pyrazinyl, primidinyl, purinyl, and pteridinyl, and said substituent is hydroxy, halo, amino, nitro, methyl or acetoxy;

X is independently selected in each instance from the group consisting of trans, trans >C=CH--HC=C<, trans >C=C<, and >C*H--$(CH_2)_m$--HC*< where "*" indicates a chiral carbon atom and R_3 and R_4 are oriented L- and D-(amino acid convention) at these respective chiral centers; and

m = 0, 1 or 2, or

a pharmaceutically acceptable salt, solvate or prodrug thereof